EPA Region 5 Records Ctr.

SITE ASSESSMENT REPORT
FOR
HARRISON SHEET STEEL
CHICAGO, COOK COUNTY, ILLINOIS
TDD No. T05-9502-009
PAN: EIL0859SAA



SITE ASSESSMENT REPORT FOR HARRISON SHEET STEEL CHICAGO, COOK COUNTY, ILLINOIS TDD No. T05-9502-009 PAN: EIL0859SAA

March 13, 1995

Prepared for:
UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
Emergency and Enforcement Response Branch
77 West Jackson Boulevard
Chicago, Illinois, 60604

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ecology and environment, inc.

111 WEST JACKSON BLVD., CHICAGO, ILLINOIS 60604, TEL. 312-663-9415 International Specialists in the Environment

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1. INTRODUCTION

United States Environmental Protection Agency (U.S. EPA) tasked the Ecology and Environment, Inc., (E & E) Technical Assistance Team (TAT) to assist the On-Scene Coordinator (OSC) in performing a site assessment at the Harrison Sheet Steel (HSS) site in Chicago, Illinois. The TAT was requested under Technical Direction Document (TDD) number T05-9502-009 to prepare and implement a health and safety plan, compile background information, conduct a site assessment, perform air monitoring, collect samples, document on-site activities, and evaluate threats to human health and the environment. The site assessment was conducted on February 17, 1995. All activities were coordinated under the authority of the U.S. EPA OSC Pete Guria.

2. SITE BACKGROUND

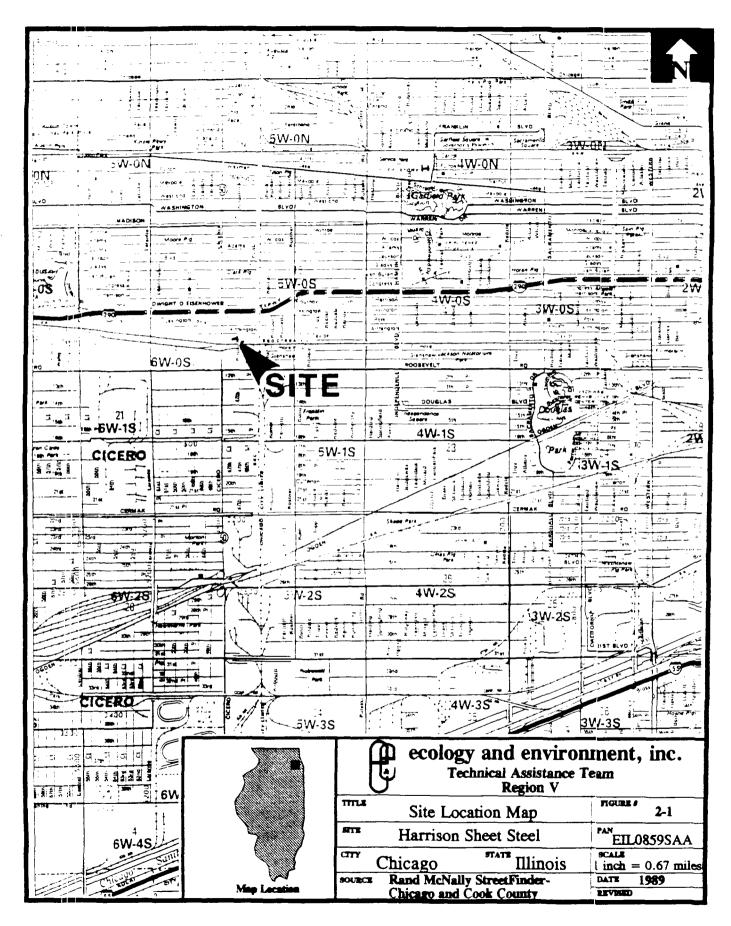
2.1 SITE DESCRIPTION

The HSS site is located at 4718 W. Fifth Avenue in Chicago, Illinois (41 52' 09.0" N latitude and 87 44' 33.4" W longitude). (Figure 2-1) The site is an abandoned, partially destroyed brick building located in a light industrial and residential area. A railroad yard is present to the south of Fifth Avenue (Figure 2-2). An alley separates the HSS site from residential and commercial buildings located to the north. One residential building is located on the vestern boundary of the HSS site, at 4746 W. Fifth Avenue. A cabinet refinishing business is located on the eastern boundary of the HSS site, at 4700 W. Fifth Avenue.

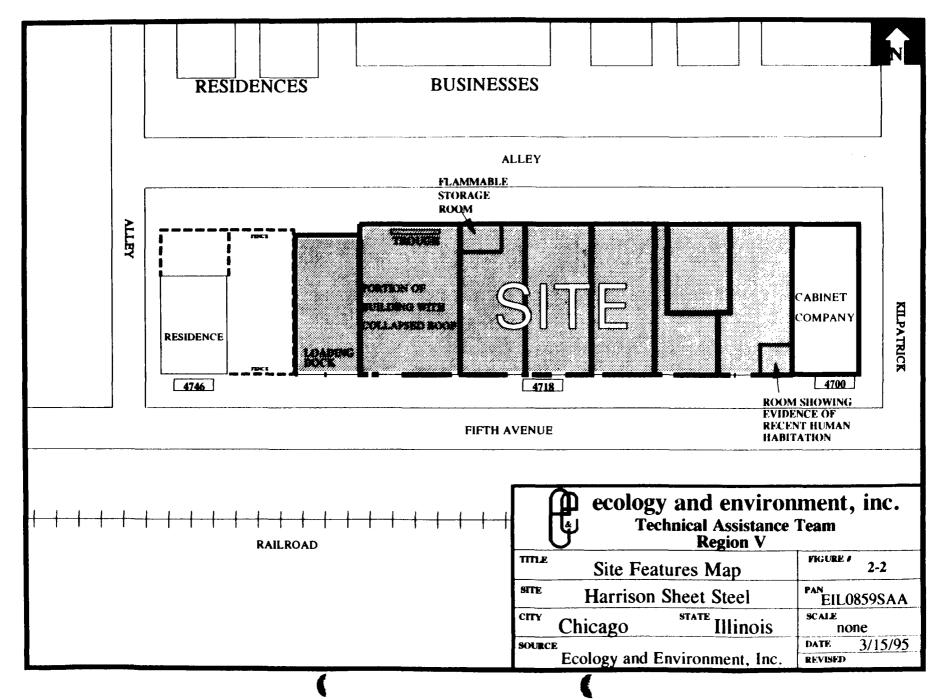
The building has been severely damaged by fire and the roof is collapsed or missing in some areas. An unknown number of 55-gallon drums, estimated to be in the hundreds, are scattered throughout the building or buried in the collapsed sections of the building. Most of the drums are in poor condition. The site is unfenced and there were numerous openings to the building. It appeared that at least one homeless person occupied a small room located in the southern part of the building.

2.2 SITE HISTORY

There is a limited amount of information concerning the history of the site. During the past two years the Chicago Fire Department has responded to seven fires at the site.







3. SITE ASSESSMENT

At 0800 hours on February 17, 1995, E & E TAT members (TATMs) Sally Imes, Karen Rydzewski, and Dave Hendren met U.S. EPA OSC Pete Guria to discuss the site assessment activities required at the HSS site. The OSC informed TAT of the general condition of the building and discussed the presence of a drum, possibly containing cyanide. The OSC informed TAT that at least two fires have occurred at the site, resulting in severe damage to the building. The OSC requested that a site reconnaissance be performed initially to familiarize TAT with the site and identify potential sampling areas or drums. The OSC and TAT conducted a safety meeting and prepared monitoring equipment to be used in the reconnaissance. The monitoring equipment included an explosimeter/oxygen detector, a radioactivity detector, and a hydrogen cyanide monitor. Level D protection was worn during the site reconnaissance.

At 0835 hours the site reconnaissance began. The temperature was about 20°F with clear skies. The reconnaissance team included the U.S. EPA OSC, and three TATMs. Continuous monitoring for explosive gases, oxygen level, radioactivity, and hydrogen cyanide was performed throughout the reconnaissance. No readings above background were detected on any monitor.

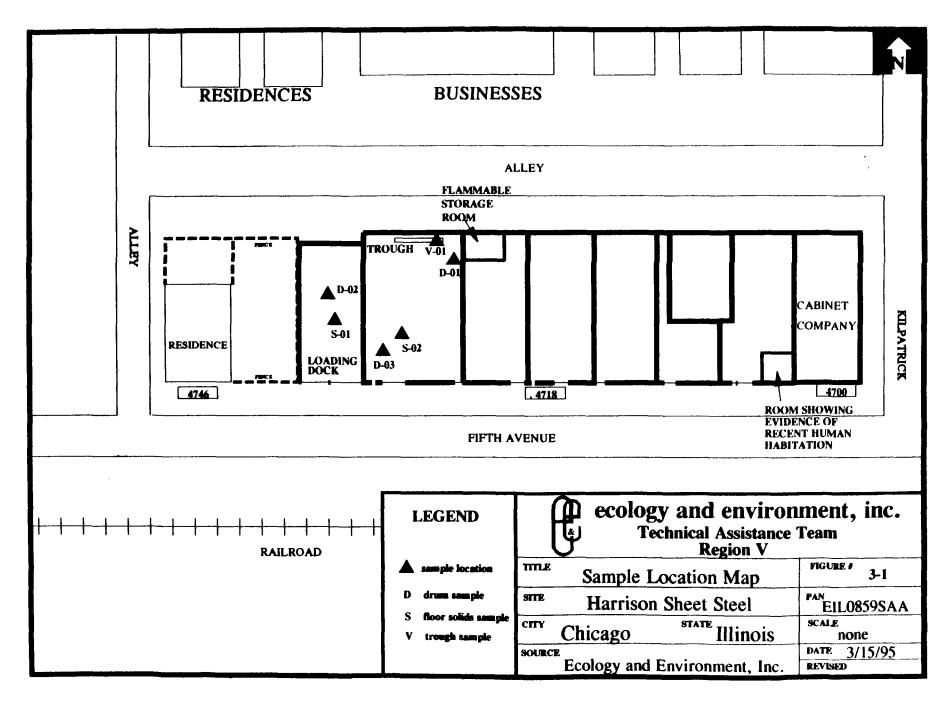
In general, the building structure was in very poor condition with the roof collapsed or missing over several sections of the building. Many 55-gallon drums in poor condition were present throughout the building, and building debris resulting from the fires were present in the building. One drum, laying on its side without a cover, contained a label "CYANAC",

indicating the possible presence of cyanide-containing material. A small room located in the southeast section of the building appeared to be used for human shelter, and contained a sofa seat and numerous items of clothing. During the reconnaissance, seven specific locations were identified for sample collection. After determining appropriate sampling locations, the OSC and TAT exited the building to prepare for sampling.

TAT and the OSC discussed observations made during the reconnaissance and described sampling points. At 0930 hours TAT and the OSC returned to the HSS site to begin sampling.

To conduct sampling, TATMs Rydzewski and Hendren donned Level B protection, while TATM Imes assisted in Level C protection. OSC Guria remained at the response vehicle parked in the alley, to act as security. TATM Rydzewski collected a 32-ounce grab sample of the suspected cyanide-containing white powder and labeled it D-01 and TATM Hendren collected photodocumentation (Figure 3-1). The drum was located next to a room designated "Flammable Storage". The TATMs used a HNU photoionization detector (PID) to monitor the flammable storage area. No readings above background were measured.

The TATMs then returned to the decontamination area to downgrade personal protection to Level C. The remaining samples were collected wearing Level C protection. TATM Imes collected sample D-02 as a grab sample from an open drum of suspected foundry sand, which consisted of a black, sandy substance. Sample S-01 was collected by TATM Rydzewski from a pile of material located approximately 12 feet from the location of Sample D-02. Sample S-01 was a grab sample consisting of a loose, dark gray material. Sample D-03 was a reddish-orange solid grab sample collected from a rusted, open drum, by TATM Imes. Sample V-01 was collected by TATM Imes from a trough



located near the north wall of the building and consisted of a reddish-brown grab sample. TATM Rydzewski collected Sample S-02 from a pile of yellow-stained debris located approximately 20 feet north of Sample D-03. Sample S-02 consisted of a very hard yellow solid and required repeated blows with a hammer to dislodge. Sample D-04 was a brown, viscous liquid collected from a drum located in the northern section of the building designated for flammable storage. This section of the building must be accessed from the alley on the north side of the building. Following sampling, TAT removed all disposable personal protective equipment and double-bagged it. The site-derived refuse was taken to a nearby U.S. EPA site for proper disposal. The TAT discussed the site assessment with OSC Guria.

The TATMs returned to the TAT warehouse with the collected samples at 1145 hours and began demobilization of equipment, and a chain-of-custody, number 5-40703, was completed by TATM Imes.

The samples were taken via NET courier to NET Laboratories,
Bartlett, Illinois, for analysis under analytical TDD number
T05-9502-803. Analysis requested included tests to determine
whether hazardous characteristics exist in the wastes by analysis
for pH, flash point, total Resource Conservation and Recovery Act
(RCRA) metals and Toxicity Characteristic Leaching Procedure
(TCLP) metals, TCLP volatiles and TCLP semivolatiles, and total
and reactive sulfide and cyanide analyses.

4. ANALYTICAL RESULTS

Analytical results are presented in Tables 4-1 through 4-4. None of the samples tested were found to be corrosive. three samples tested for flash point, one sample (D-04) flashed at 145 degrees Farenheit (°F). Upon rechecking the flash point of D-04, a flash point of 140°F was obtained by the laboratory. Elevated levels of total lead were detected in samples D-02 (6,100 micrograms per gram (ug/g), S-01 (16,300 ug/g), D-03(23,200 ug/g), and V-01 (4,150 ug/g). Elevated levels of TCLP lead were observed in samples D-02 and D-03, at 59.3 and 84.5 milligrams/liter (mg/L), respectively. Elevated levels of total chromium were detected in D-03 (8,600 ug/g), V-01 (482 ug/g), and S-02 (7,680 ug/g). Of three samples tested for TCLP volatile organics and TCLP semivolatile organics, only one volatile organic, methyl ethyl ketone, was detected in sample D-04 at 2.1 The total cyanide content of samples D-01 and V-01 was measured at 0.57 and 3.2 ug/g, respectively. Reactive cyanide and total and reactive sulfide were not detected in samples D-01 and V-01.

Table 4-1

ph, Flash Point, TCLP-Volatiles, TCLP-SEMIVOLATILES ANALYTICAL RESULTS HARRISON SHEET STEEL FEBRUARY 17, 1995

Parameter	Sample Designation									
	D-01	D-02	S-01	D-03	V-01	S-02	D-04			
рH	9.96	7.91	9.63	6.33	6.57	7.97	4.95			
Flash Point	NA	NA	NA	>200	NA	>200	145			
TCLP- Volatiles	NA	NA	NA	ND	NA	ND	MEK 2.1			
TCLP- Semivolatiles	NA	NA	NA	ND	NA	ND	ND			

NA = Not Analyzed

ND = Not Detected

Flash point given in degrees Farenheit

MEK = Methyl ethyl ketone (mg/L)

Source: NET, Bartlett, Illinois (Analytical TDD No. T05-9502-803)

Table 4-2

TOTAL METALS ANALYTICAL RESULTS HARRISON SHEET STEEL FEBRUARY 17, 1995

Parameter	Sample Designation							
	D-02	S-01	D-03	V-01	S-02	D-04		
Arsenic	2.8	14.6	27.5	4.9	26.4	<0.50		
Barium	15.4	415	4,300	540	208	<1.2		
Cadmium	4.6	47.7	6.16	30.4	1.6	<0.50		
Chromium	5.4	17.4	8,600	482	7,680	<2.0		
Copper	49,400	73,200	1,130	179	41.8	1.5		
Lead	6,100	16,300	23,200	4,150	31,600	2.2		
Mercury	0.10	0.12	0.12	0.07	0.06	<0.02		
Selenium	<0.5	13.2	<0.5	0.8	<0.5	0.64		
Silver	14	22	2.6	2.3	2.0	<2.0		
Zinc	15,300	273,000	3,170	4,290	1,700	<9.0		

Units = ug/g

Source: NET, Bartlett, Illinois (Analytical TDD No. T05-9502-803)

Table 4-3

TCLP METALS ANALYTICAL RESULTS HARRISON SHEET STEEL FEBRUARY 17, 1995

Parameter	Sample Designation							
	D-02	S-01	D-03	V-01	S-02			
Arsenic-TCLP	<0.05	<0.05	<0.05	<0.05	<0.05			
Barium-TCLP	0.481	1.82	0.288	0.310	0.556			
Cadmium-TCLP	0.100	0.227	0.035	0.132	<0.010			
Chromium-TCLP	<0.040	<0.040	0.615	0.122	<0.040			
Copper-TCLP	73.9	5.83	1.29	0.331	0.073			
Lead-TCLP	59.3	5.00	84.5	1.34	0.292			
Mercury-TCLP	ND	ND	ND	ND	ND			
Selenium-TCLP	<0.05	<0.05	<0.05	<0.05	<0.05			
Silver-TCLP	<0.040	<0.040	<0.040	<0.040	<0.040			
Zinc-TCLP	246	612	17.4	42.7	0.952			

Units = mg/L

ND = Not Detected; <0.0002 mg/L

Source: NET, Bartlett, Illinois, (Analytical TDD No. T05-9502-803)

Table 4-4

CYANIDE and SULFIDE ANALYTICAL RESULTS HARRISON SHEET STEEL FEBRUARY 17, 1995

Parameter	Sample Designation			
	D-01	V-01		
Cyanide, Total	0.57	3.2		
Cyanide, Reactive	< 0.25	< 0.25		
Sulfide, Total	NA	< 2.0		
Sulfide, Reactive	NA	< 2.5		

Units = ug/g

NA = Not Analyzed

Source: NET, Bartlett, Illinois (Analytical TDD No. T05-9502-803)

5. THREATS TO HUMAN HEALTH AND THE ENVIRONMENT

Conditions observed during the U.S. EPA investigation of the HSS site that constitute a threat to human health and the environment and may be used to determine the appropriateness of a removal action as outlined in Section 300.415 (b) (2) of the National Contingency Plan (NCP) included:

 Actual or potential exposure to nearby human populations, animals, or food chain from hazardous substances or contaminants;

Potential exposure of nearby populations to hazardous materials exists at the HSS site. Elevated concentrations of lead were found in samples of suspected foundry sand; D-02 (6100 ug/q); S-01 (16,300 ug/q). These samples were collected from an open drum or piles on the floor. Sample D-03, collected from an open drum, was found to contain elevated levels of lead (23,200 ug/g) and chromium (8,600 ug/g). The elevated levels of lead in these samples resulted in elevated TCLP lead concentrations in samples D-02, S-01, and D-03. The Agency for Toxic Substances and Disease Registry (ATSDR) has listed many health effects associated with exposure to lead, including an increase in deaths due to hypertension, nephritis, neoplasms, and cerebrovascular disease. Exposure to chromium can result in respiratory irritation, dermatitis, renal failure, and various hematological effects. Since most of the doors and windows at HSS have been destroyed by fire and no security fences are present, the building is open to trespassers or vandals. One individual was

observed removing copper wire and burning off the plastic insulation at the time of the site assessment. In addition, there was evidence that one room in the structure was used as a shelter for a homeless individual. Residences are located directly west and north of the HSS building.

• Hazardous substances or pollutants or contaminants in drums, barrels, tanks, or other bulk storage containers, that may pose a threat of release;

An estimated one thousand 55-gallon drums are scattered throughout the HSS site. Most drums were in poor physical condition, and many were open and appeared to have leaked or released contents to the surrounding area. Many drums were buried in building debris or were located in inaccessible sections of the facility. Elevated levels of chromium and lead were detected in two drum samples (D-02, D-03). The TCLP extracts for both of these samples exceeded the RCRA limit of 5 mg/L and; therefore, exhibit a hazardous characteristic, as defined in 40 Code of Federal Regulations (CFR) 261.24.

 Weather conditions that may cause hazardous substances or pollutants or contaminants to migrate or be released;

The roof of the HSS building is missing or has collapsed over large sections of the building, allowing precipitation to enter the building. The potential for migration of contaminants to the surrounding environment exists either via precipitation runoff or through airborne particulates. The elevated levels of chromium and lead in the samples collected from piles on the floor and from open drums indicate that hazardous substances may

migrate due to weather conditions.

· Threat of fire or explosion;

A room that was marked with signs indicating flammable storage may contain substances that create a fire or explosion hazard. Because the room was inaccessible at the time of the site assessment, no sampling of materials stored in this room could be performed. Additionally, drums were present in an area marked for flammable storage adjacent to the alley and on the northern wall of the building. The roof over this area has collapsed; thereby, exposing all drums to weather conditions. Sample D-04 was collected from a drum in this area and was found to contain material that flashed at 140°F, which is the upper limit for ignitibility, as defined in 40 CFR 261.24. In addition, approximately fifteen 5-gallon pails, with flammable labels, were observed in a room located in the eastern end of the building.

6. SUMMARY

A removal action is warranted at the HSS site based upon the threats defined in Section 5, and because of the possible presence of hundreds of drums, buried in the building debris or in inaccessible rooms. The continued exposure of drummed and non-contained materials to weather conditions could possibly result in migration of hazardous materials to the surrounding environment. Additionally, children in the neighborhood may access the building and accidentally be exposed to hazardous substances. Finally, because the building is not secure, trespassing and vandalism may lead to further release or exposure to hazardous substances present.

APPENDIX A

SITE PHOTOGRAPHS

SITE NAME: Harrison Sheet Steel

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TDD: T05-9502-009 PAN: EIL0859SAA

DATE: 02/17/95

TIME: 0900

DIRECTION OF PHOTOGRAPH:

East

WEATHER CONDITIONS: Sunny, 20°F

PHOTOGRAPHED BY Dave Hendren

SAMPLE ID (if applicable) N/A

DESCRIPTION:

HSS site, taken from Fifth, looking East

DATE: 02/17/95

TIME: 0900

DIRECTION OF PHOTOGRAPH: West

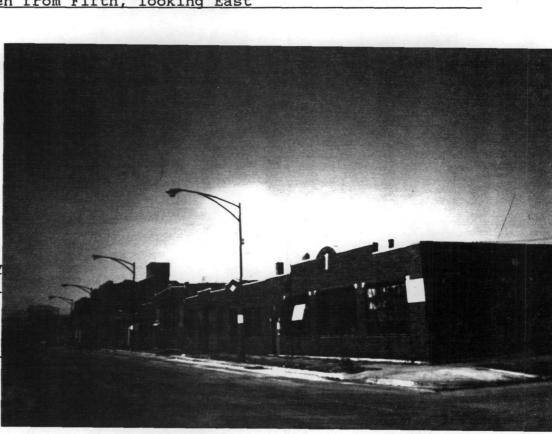
WEATHER CONDITIONS: Sunny, 20°F

PHOTOGRAPHED BY Dave Hendren

SAMPLE ID (if applicable) N/A

DESCRIPTION:

HSS site, viewed from Kilpatrick and Fifth



SITE NAME: Harrison Sheet Steel

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TDD: T05-9502-009 PAN: EIL0859SAA

DATE: 02/17/95

TIME: 0900

DIRECTION OF PHOTOGRAPH: North

WEATHER CONDITIONS: Sunny, 20°F

PHOTOGRAPHED BY Dave Hendren

SAMPLE ID (if applicable) N/A



HSS site, showing open access to building, and fire damage

DATE: 02/17/95

TIME: 0900

DIRECTION OF PHOTOGRAPH: West

WEATHER CONDITIONS: Sunny, 20°F

PHOTOGRAPHED BY Dave Hendren

SAMPLE ID (if applicable) N/A

DESCRIPTION:

HSS site, viewed from alley at rear of building



SITE NAME: Harrison Sheet Steel

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TDD: T05-9502-009 PAN: EIL0859SAA

DATE: 02/17/95

TIME: _0900

DIRECTION OF PHOTOGRAPH: North

WEATHER CONDITIONS: Sunny, 20°F

PHOTOGRAPHED BY: Dave Hendren

SAMPLE ID (if applicable): N/A



Residence directly west of HSS site



DIRECTION OF PHOTOGRAPH: North WEATHER CONDITIONS: Sunny, 20°F

TIME: 0900

PHOTOGRAPHED BY Dave Hendren

SAMPLE ID (if applicable)

DESCRIPTION:



Residences directly northwest of HSS site

SITE NAME: Harrison Sheet Steel

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TDD: T05-9502-009

PAN: EIL0859SAA

DATE: 02/17/95

TIME: 0845

DIRECTION OF PHOTOGRAPH:
South

WEATHER CONDITIONS: Sunny, 20°F

PHOTOGRAPHED BY Dave Hendren

SAMPLE ID (if applicable) N/A

DESCRIPTION:

Man removing copper wire from inside building



DATE: 02/17/95

TIME: 0845

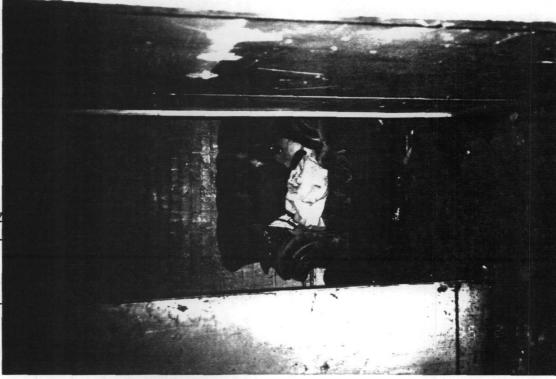
DIRECTION OF PHOTOGRAPH: East

WEATHER
CONDITIONS:
Sunny, 20°F

PHOTOGRAPHED BY Dave Hendren

SAMPLE ID (if applicable) N/A

DESCRIPTION:



Evidence of habitation within HSS building

SITE NAME: Harrison Sheet Steel

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TDD: T05-9502-009

PAN: EIL0859SAA

DATE: 02/17/95

TIME: 0845

DIRECTION OF PHOTOGRAPH:

East

WEATHER CONDITIONS: Sunny, 20°F

PHOTOGRAPHED BY Dave Hendren

SAMPLE ID (if applicable) N/A

DESCRIPTION:

Drums buried in collapsed section of building

DATE: 02/17/95

TIME: 0845

DIRECTION OF PHOTOGRAPH:
_South

WEATHER
CONDITIONS:
Sunny, 20°F

PHOTOGRAPHED BY Dave Hendren

SAMPLE ID (if applicable)

DESCRIPTION:

Drums buried in building rubble



SITE NAME: Harrison Sheet Steel

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TDD: T05-9502-009

PAN: EIL0859SAA

DATE: 02/17/95

TIME: 0845

DIRECTION OF PHOTOGRAPH:
South

WEATHER
CONDITIONS:
Sunny, 20°F

PHOTOGRAPHED BY Dave Hendren

SAMPLE ID
(if applicable)
N/A



DESCRIPTION:

Drums in area marked as "Inflammable" storage

DATE: 02/17/95

TIME: 0900

DIRECTION OF PHOTOGRAPH:
West

WEATHER
CONDITIONS:
Sunny, 20°F

PHOTOGRAPHED BY Dave Hendren

SAMPLE ID (if applicable) N/A

DESCRIPTION:



Drums and debris within building

SITE NAME: Harrison Sheet Steel

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TDD: T05-9502-000

DATE: 02/17/95

TIME: _0845

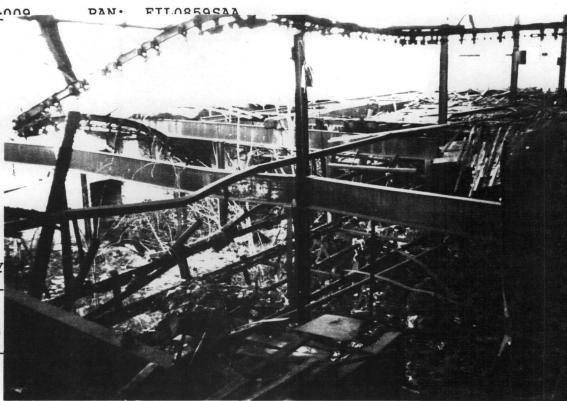
DIRECTION OF PHOTOGRAPH:

West

WEATHER CONDITIONS: Sunny, 20°F

PHOTOGRAPHED BY Dave Hendren

SAMPLE ID (if applicable) N/A



DESCRIPTION:

Collapsed section of building over drums

DATE: 02/17/95

TIME: 0845

DIRECTION OF PHOTOGRAPH:

East

WEATHER CONDITIONS: Sunny, 20°F

PHOTOGRAPHED BY Dave Hendren

SAMPLE ID (if applicable) N/A

DESCRIPTION:



Drums and debris within building

SITE NAME: Harrison Sheet Steel

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TDD: T05-9502-009 PAN: EIL0859SAA

DATE: 02/17/95

TIME: _1015

DIRECTION OF PHOTOGRAPH: North

WEATHER CONDITIONS: Sunny, 20°F

PHOTOGRAPHED BY Dave Hendren

SAMPLE ID (if applicable) N/A

DESCRIPTION:

TAT collecting sample D-01

DATE: 02/17/95

TIME: _1015

DIRECTION OF PHOTOGRAPH: North

WEATHER CONDITIONS: Sunny, 20°F

PHOTOGRAPHED BY Dave Hendren

SAMPLE ID (if applicable)

DESCRIPTION:

Sample D-01, from drum labeled "CYANEC"



SITE NAME: Harrison Sheet Steel

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TDD: T05-9502-009 PAN: EIL0859SAA

DATE: 02/17/95

TIME: 1025

DIRECTION OF PHOTOGRAPH: N/A

WEATHER CONDITIONS: Sunny, 20°F

PHOTOGRAPHED BY Dave Hendren

SAMPLE ID (if applicable) N/A

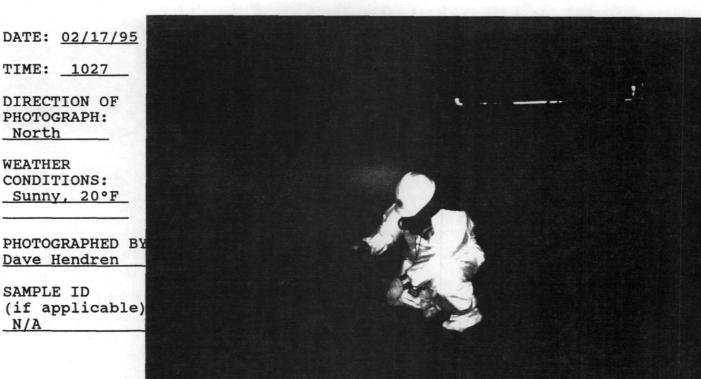
DESCRIPTION:

TAT collecting sample D-02, suspected foundry sand

TIME: 1027

DIRECTION OF PHOTOGRAPH: North

WEATHER CONDITIONS: Sunny, 20°F



Dave Hendren

SAMPLE ID (if applicable) N/A

DESCRIPTION:

Sample S-01 from suspected foundry sand on floor

SITE NAME: Harrison Sheet Steel

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TDD: T05-9502-009 PAN: EIL0859SAA

DATE: 02/17/95

TIME: 1030

DIRECTION OF PHOTOGRAPH: N/A____

WEATHER CONDITIONS: Sunny, 20°F

PHOTOGRAPHED BY Dave Hendren

SAMPLE ID (if applicable) N/A

DESCRIPTION:

TAT collecting sample D-03 from rusted drum

TIME: 1040 DIRECTION OF PHOTOGRAPH: N/A WEATHER CONDITIONS:

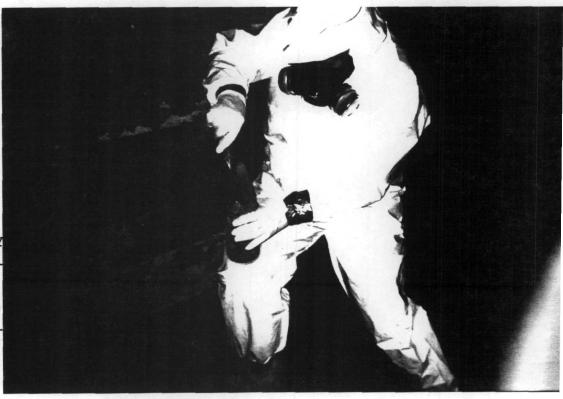
DATE: 02/17/95

PHOTOGRAPHED BY Dave Hendren

Sunny, 20°F

SAMPLE ID (if applicable) N/A

DESCRIPTION:



TAT collects sample V-01 from trough along northern wall

SITE NAME: Harrison Sheet Steel

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TDD: T05-9502-009

PAN: EIL0859SAA

DATE: 02/17/95

TIME: 1045

DIRECTION OF PHOTOGRAPH:
N/A

WEATHER
CONDITIONS:
Sunny, 20°F

PHOTOGRAPHED BY Dave Hendren

SAMPLE ID (if applicable) N/A

DESCRIPTION:

TAT collecting sample S-02 from yellow residue on ground

DATE: 02/17/95

TIME: 1100

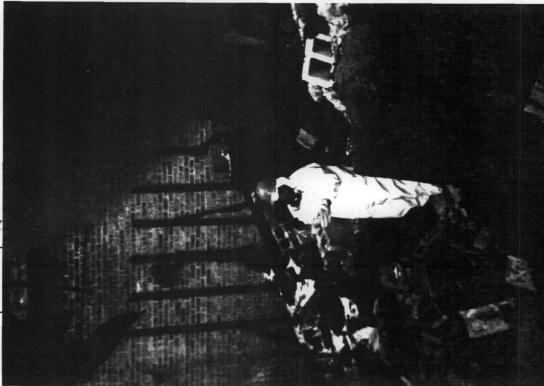
DIRECTION OF PHOTOGRAPH:
N/A

WEATHER
CONDITIONS:
Sunny, 20°F

PHOTOGRAPHED BY Dave Hendren

SAMPLE ID (if applicable) N/A

DESCRIPTION:



Sample D-04 from drum in area marked for flammable storage

APPENDIX B

ANALYTICAL DATA

ecology and environment, inc.

International Specialists in the Environment

111 Mest Jacksen Boulevard Ohicago: Illinois 60604 Tei: 312 663-9415, Fax: 312 663-0191

MEMORANDUM

DATE:

March 11, 1995

TO:

File

FROM:

David Hendren, Analytical Services Manager, E & E,

Chicago, IL

THROUGH:

Mary Jane Ripp, QA Manager, E & E, Chicago, IL

SUBJECT:

Toxicity Characteristic Leaching Procedure (TCLP)

Volatile Organic Data Quality Review,

Harrison Sheet Steel, Chicago, Cook County, IL

REFERENCE:

Project TDD T05-9502-009 Analytical TDD T05-9502-803

Project PAN EIL0859SAA Analytical PAN EIL0859AAA

The data quality assurance (QA) review of three solid samples collected from the Harrison Sheet Steel site is complete. The samples were collected on February 17, 1995, by the Technical Assistance Team (TAT) contractor, Ecology and Environment, Inc. (E & E). The samples were submitted to NET-Midwest, Bartlett, Illinois. The laboratory analyses was performed according to United States Environmental Protection Agency Solid Waste 846 Methods 1311 and 8240.

Sample Identification

E & E Identification No.	Laboratory Identification No.
AMBRIDAY AVALANTA AVA	Additional Additional No.
D-03	294399
S-02	294400
D-04	294402

Data Qualifications

I. Sample Holding Time: Acceptable

The samples were collected on February 17, 1995, and analyzed on February 22, 1995. This is within the 14-day limit for soil or solid samples.

II. <u>Gas Chromatography/Mass Spectrometry (GC/MS) Tuning:</u> <u>Acceptable</u>

GC/MS tuning to meet ion abundance criteria using bromofluorobenzene (BFB) were acceptable and samples were analyzed within 12 hours of BFB tuning.

III. Calibrations:

• Initial Calibration: Acceptable

A five-point initial calibration was performed prior to analysis. All average response factors were greater than 0.05 for all target compounds. The percent relative standard deviations (%RSD) between response factors were less than 30% for all target compounds.

• Continuing Calibration: Acceptable

The response factors and percent differences were acceptable.

IV. Blanks: Acceptable

A method blank was analyzed with the samples. No target compounds or contaminants were detected in the method blank.

V. <u>Internal Standards: Acceptable</u>

The areas of the internal standards in the samples were within -50% to +100% of the associated calibration check standard. The retention time of the internal standard was within the 30-second control limit.

VI. Compound Identification: Acceptable

All target compounds were properly identified in the samples using mass spectral and retention time data.

VII. Additional OC Checks: Acceptable

The recoveries of the surrogates used in the sample and blank were within the laboratory established guidelines.

VIII. Overall Assessment of Data for Use: Acceptable

The overall usefulness of the data is based on criteria for QA Level II as outlined in the Office of Solid Waste and Emergency Response (OSWER) Directive 9360.4-01 (April 1990), Data Validation Procedures, Section 5.0, VOAs By GC/MS analysis. Based upon the information provided, the data are acceptable for use as reported.



ecology and environment, inc.

international Specialists in the Environment

West Jackson Boule, and Chicago Jilinois 60604

Tel: 312 563-9415. Fax: 312 563-3791

MEMORANDUM

DATE:

March 11, 1995

TO:

File

FROM:

David Hendren, Analytical Services Manager, E & E,

Chicago, IL

THROUGH:

Mary Jane Ripp, QA Manager, E & E, Chicago, IL

SUBJECT:

Toxicity Characteristic Leaching Procedure (TCLP)

Semivolatile Organic Data Quality Review,

Harrison Sheet Steel, Chicago, Cook County, IL

REFERENCE:

Project TDD T05-9502-009 Analytical TDD T05-9502-803

Project PAN EIL0859SAA Analytical PAN EIL0859AAA

The data quality assurance (QA) review of three solid samples collected from the Harrison Sheet Steel site is complete. The samples were collected on February 17, 1995, by the Technical Assistance Team (TAT) contractor, Ecology and Environment, Inc. (E & E). The samples were submitted to NET-Midwest, Bartlett, Illinois. The laboratory analyses was performed according to United States Environmental Protection Agency Solid Waste 846 Methods 1311 and 8270.

Sample Identification

E & E Identification No.	Laboratory Identification No.
D-03	294399
S-02	294400
D-04	294402

Data Qualifications

I. Sample Holding Time: Acceptable

The samples were collected on February 17, 1995, extracted on February 20, 1995, and analyzed on February 21, 1995. This is within the 14-day limit for soil or solid samples.

II. <u>Gas Chromatography/Mass Spectrometry (GC/MS) Tuning:</u> <u>Acceptable</u>

GC/MS tuning to meet ion abundance criteria using decafluorotriphenylphosphine (DFTPP) were acceptable and samples were analyzed within 12 hours of DFTPP tuning.

III. Calibrations:

• Initial Calibration: Acceptable

A five-point initial calibration was performed prior to analysis. All average response factors were greater than 0.05 for all target compounds. The percent relative standard deviations (*RSD) between response factors were less than 30% for all target compounds.

• Continuing Calibration: Acceptable

The response factors and percent differences were acceptable.

IV. Blanks: Acceptable

A method blank was analyzed with the samples. No target compounds or contaminants were detected in the method blank.

V. <u>Internal Standards: Acceptable</u>

The areas of the internal standards in the samples were within -50% to +100% of the associated calibration check standard. The retention time of the internal standard was within the 30-second control limit.

VI. Compound Identification: Acceptable

All target compounds were properly identified in the samples using mass spectral and retention time data.

VII. Additional OC Checks: Acceptable

The recoveries of the surrogates used in the sample and blank were within the laboratory established guidelines.

VIII. Overall Assessment of Data for Use: Acceptable

The overall usefulness of the data is based on criteria for QA Level II as outlined in the Office of Solid Waste and Emergency Response (OSWER) Directive 9360.4-01 (April 1990), Data Validation Procedures, Section 4.0, BNAs By GC/MS analysis. Based upon the information provided, the data are acceptable for use.

ecology and environment, inc.

nternational Specialists in the Environment

111 West Jackson Boulevard Chicago Illinois 60604 Tel II 312 663-9415, Fax II 312 663-0191

MEMORANDUM

DATE:

March 11, 1995

TO:

File

FROM:

David Hendren, Analytical Services Manager, E & E,

Chicago, IL

THROUGH:

Mary Jane Ripp, QA Manager, E & E, Chicago, IL

SUBJECT:

Resource Conservation and Recovery Act (RCRA) and

Toxicity Characteristic Leaching Procedure (TCLP)

Metals Data Quality Review,

Harrison Sheet Steel, Chicago, Cook County, IL

REFERENCE:

Project TDD T05-9502-803 Analytical TDD T05-9502-009

Project PAN EIL0859SAA Analytical PAN EIL0859AAA

The data quality assurance (QA) review of six solid samples collected from the Harrison Sheet Steel site is complete. The samples were collected on February 17, 1995, by the Technical Assistance Team (TAT) contractor, Ecology and Environment, Inc. (E & E). The samples were submitted to NET-Midwest, Bartlett, Illinois. The laboratory analyses was performed according to United States Environmental Protection Agency Solid Waste 846 Methods 1311 (TCLP) and 6010 for barium, cadmium, chromium, lead, copper, and zinc; 7060, arsenic; 7471, mercury; 7740, selenium; and 7760, silver. (In addition to the RCRA metals, analyses for copper and zinc were also requested.)

Sample Identification

E & E Identification No.	Laboratory Identification No.					
Identification No.	identification No.					
D-02	294397					
S-01	294398					
D-03	294399					
S-02	294400					
V-01	294401					
D-04	294402					

Harrison Sheet Steel
Project TDD T05-9502-009
Analytical TDD T05-9505-803
Page 2

Data Qualifications

I. Sample Holding Time: Acceptable

The samples were collected on February 17, 1995, and analyzed between February 21, 1995, and February 23, 1995. Holding time criteria of six months (28 days for mercury) for all metals were met.

II. Calibration:

Initial Calibration: Acceptable

Recoveries for the initial calibration verification were within 90% to 110% (80% to 120% for mercury), as required.

Continuing Calibration: Acceptable

All analytes included in the continuing calibration verification standard were within 90% to 110% recoveries (80% to 120% for mercury), as required.

III. Blanks: Acceptable

A method blank (preparation blank) was analyzed with the samples and calibration blanks were analyzed following calibration standards. No target analytes were detected in the blanks.

IV. Instrument Interference Check Samples (ICS): Acceptable

The ICS samples were analyzed before and after sample analysis, as required, and were within quality control limits.

V. Overall Assessment of Data For Use: Acceptable

The overall usefulness of the data is based on criteria for QA Level II as outlined in the Office of Solid Waste and Emergency Response (OSWER) Directive 9360.4-01 (April, 1990) Data Validation Procedures, Section 3.0, Metallic Inorganic Parameters. Based upon the information provided, the data are acceptable for use as reported.

ecology and environment, inc.

nternational Specialists in the Environment

** Mest Jackson Boulevard Chicago Illinois 60604

Tel: 312:663-9415, Fax: 312-663-3191

MEMORANDUM

DATE:

March 11, 1995

TO:

Pile

FROM:

David Hendren, Analytical Services Manager, E & E,

Chicago, IL

THROUGH:

Mary Jane Ripp, QA Manager, E & E, Chicago, IL

SUBJECT:

Total and Reactive Cyanide, Total and Reactive

Sulfide Data Quality Review,

Harrison Sheet Steel, Chicago, Cook County, IL

REFERENCE: Project TDD T05-9502-009 Analytical TDD T05-9502-803

Project PAN EIL0859SAA Analytical PAN EIL0859AAA

The data quality assurance (QA) review of two solid samples collected from the Harrison Sheet Steel site is complete. The samples were collected on February 17, 1995, by the Technical Assistance Team (TAT) contractor, Ecology and Environment, Inc. (E & E). The samples were submitted to NET-Midwest, Bartlett, Illinois. The laboratory analyses was performed according to United States Environmental Protection Agency Solid Waste 846 Methods 9010 for cyanide and 9030 for sulfide.

Sample Identification

	E	£	E	
<u>Ident</u>	if	ic	ation	No.

Laboratory Identification No.

D-01 V-01 294396 294401

Data Qualifications

Sample Holding Time: Acceptable I.

The samples were collected on February 17, 1995, and analyzed on February 21, 1995 and February 22, 1995. is within the 14-day limit for these parameters.

Harrison Sheet Steel
Project TDD T05-9502-009
Analytical TDD T05-9502-803
Page 2

II. <u>Calibrations: Acceptable</u>

Acceptable multipoint calibrations were performed for both cyanide and sulfide preceding sample analysis.

III. Overall Assessment of Data for Use: Acceptable

The overall usefulness of the data is based on criteria for QA Level II as outlined in the Office of Solid Waste and Emergency Response (OSWER) Directive 9360.4-01 (April 1990), Data Validation Procedures, Section 9.0, Generic Data Validation Procedures. Based upon the information provided, the data are acceptable for use.

ecology and environment, inc.

nternational Specialists in the Environment

111 West Jackson Boulevard

Onicago illinois 60604 Tel: 312 663-9415, Fax: 312 663-0191

MEMORANDUM

DATE:

March 11, 1995

TO:

Pile

FROM:

David Hendren, Analytical Services Manager, E & E,

Chicago, IL

THROUGH:

Mary Jane Ripp, QA Manager, E & E, Chicago, IL

SUBJECT:

General Data Quality Review for pH and Flash Point,

Harrison Sheet Steel, Chicago, Cook County, IL

REFERENCE:

Project TDD T05-9502-009 Analytical TDD T05-9502-803

Project PAN EIL0859SAA Analytical PAN EIL0859AAA

The data quality assurance (QA) review of seven solid samples collected from the Harrison Sheet Steel site is complete. The samples were collected on February 17, 1995, by the Technical Assistance Team (TAT) contractor, Ecology and Environment, Inc. (E & E). The samples were submitted to NET-Midwest, Bartlett, Illinois. The laboratory analyses was performed according to United States Environmental Protection Agency Solid Waste 846 Methods 9040 for pH and 1010 for flash point.

Sample Identification

E & E Identification No.	Laboratory Identification No					
D-01	294396					
D-02	294397					
S-01	294398					
D-03	294399					
S-02	294400					
V-01	294401					
D-04	294402					

Data Qualifications

I. Sample Holding Time: Acceptable

The samples were collected on February 17, 1995, and analyzed on February 22, 1995. There are no specific holding times associated with these parameters.

Harrison Sheet Steel
Project TDD T05-9502-009
Analytical TDD T05-9502-803
Page 2

III. Overall Assessment of Data for Use: Acceptable

The overall usefulness of the data is based on criteria for QA Level II as outlined in the Office of Solid Waste and Emergency Response (OSWER) Directive 9360.4-01 (April 1990), Data Validation Procedures, Section 9.0, Generic Data Validation Procedures. Based upon the information provided, the data are acceptable for use.



Tet: (708) 289-3100 Fax: (708) 289-5445

ANALYTICAL REPORT

Mr. Dave Hendren ECOLOGY & ENVIRONMENT, INC 111 West Jackson Blvd. Chicago, IL 60604 02/23/1995

Sample No.: 294396

NET Job No.: 95.01077

Sample Description:

D-01; Grab

2T 3051; T05-9502-803

Date Taken: 02/17/1995 Time Taken: 10:15 IEPA Cert. No. 100221 Date Received: 02/17/1995 Time Received: 14:45 WDNR Cert. No. 999447130

Peremeter	Results	Units	Date of Analysis	Method PQL	Anelys	t Betch No. Prep/Run	Analytical Method	
Cyunide, Reactive	4.3	ug/g	02/21/1995	0.25	kef	270	7.3 (1)	
Cyanide, total	0.57	45/5	02/21/1995	0.10	kaf	293	9010 (1)	
pli, tion acusous	9.96	units	02/22/1995	0.10	jed	288	9040 (1)	



Tel: (708) 289-3100 Fax: (708) 289-5445

ANALYTICAL REPORT

Mr. Dave Hendren ECOLOGY & ENVIRONMENT, INC 111 West Jackson Blvd. Chicago, IL 60604

02/23/1995

Sample No.: 294397

NET Job No.: 95.01077

Sample Description:

D-02; Grab

2T 3051; T05-9502-803

Date Taken: 02/17/1995 Time Taken: 10:25 IEPA Cert. No. 100221 Date Received: 02/17/1995

Parameter	Results		Units	Date of Analysis	Method PQL	Analyst	Batch Prep/		Analytical Method
pH, Non aqueous	7.91		units	02/22/1995	0.10	jpd		288	9040 (1)
Arsenic, GFAA	2.8	s	ug/g	02/21/1995	0.50	mj:	348	51	7060 (1)
Barium, ICP	15.4		ug/g	02/23/1995	1.0	jmt	348	805	6010 (1)
Cadmium, ICP	4.6		ug/g	02/23/1995	0.50	jmt	348	773	6010 (1)
Chromium, ICP	5.4		ug/g	02/23/1995	2.0	jmt	348	766	6010 (1)
Copper, ICP	49,400		ug/g	02/23/1995	0.50	jmt	348	986	6010 (1)
Lead, GFAA	6,100		ug/g	02/23/1995	0.25	jmt	348	13	7421 (1)
Mercury, CVAA	0.10	S	ug/g	02/22/1995	0.02	mjs		381	7471 (1)
Selenium, GFAA	<0.5		ug/g	02/22/1995	0.50	mjs	348	40	7740 (1)
Silver, AA	14		ug/g	02/22/1995	2.0	jmt	134	245	7760 (1)
Zinc, ICP	15,300		ug/g	02/23/1995	1.0	jmt	348	769	6010 (1)
TCLP-Arsenic, GFAA	<0.05	S	mg/L	02/21/1995	0.05	mjs	409	404	7061 (1)
TCLP-Barium, ICP	0.481		mg/L	02/23/1995	0.020	jmt	697	1019	6010 (1)
TCLP-Cadmium, ICP	0.100		mg/L	02/23/1995	0.010	jmt	697	990	6010 (1)
TCLP-Chromium, ICP	<0.040		mg/L	02/23/1995	0.040	jmt	697	974	6010. (1)
TCLP-Copper, ICP	73.9		mg/L	02/23/1995	0.010	jmt	697	1211	6010 (1)
TCLP-Lead, GFAA	59.3		ng/L	02/23/1995	0.0050	jmt	409	989	7421 (1)
TCLP-Mercury, CVAA	<0.0002	S	mg/L	02/22/1995	0.0002	mjs	493	457	7470 (1)
TCLP-Selenium, GFAA	<0.05	\$	mg/L	02/22/1995	0.05	mjs	409	161	7740 (1)
TCLP-Silver, AA	<0.040		mg/L	02/21/1995	0.040	mic	281	324	7760 (1)
TCLP-Zinc, ICP	246		mg/L	02/23/1995	0.020	jmt	697	983	6010 (1)





Tet: (708) 289-3100 Fax: (708) 289-5445

ANALYTICAL REPORT

Mr. Dave Hendren ECOLOGY & ENVIRONMENT, INC 111 West Jackson Blvd. Chicago, IL 60604 02/23/1995

Sample No.: 294398

NET Job No.: 95.01077

Sample Description:

S-01; Grab

2T 3051; T05-9502-803

Date Taken: 02/17/1995 Time Taken: 10:27 IEPA Cert. No. 100221 Date Received: 02/17/1995

Parameter	Results		Units	Date of Analysis	Method PQL	Analyst	Satch Ho. Prep/Run	Analytical Method
pil, ilon aquecus	9.63		units	02/22/1995	0.10	jpd	288	9040 (1)
Arsenic, GFAA	14.6	\$	49/9	02/21/1995	0.50	a js	348 51	7060 (1)
Serius, ICP	415		49/9	02/23/1995	1.0	jet	348 805	6010 (1)
Codelium, ICP	47.7		49/9	02/23/1995	0.50	jet	348 773	6010 (1)
Chronium, ICP	17.4		48/9	02/23/1995	2.0	jat	348 766	6010 (1)
Copper, ICP	73,200		49/9	02/23/1995	0.50	jet	348 986	6010 (1)
Leed, CFAA	16,300		49/9	02/23/1995	0.25	jat	348 13	7421 (1)
Hercury, CWA	0.12	\$	49/9	02/22/1995	0.02	≡js	381	7471 (1)
Selenium, GFAA	13.2	\$	49/9	02/22/1995	0.50	n js	348 40	7740 (1)
Silver, AA	22		48/8	02/22/1995	2.0	jet	134 245	7760 (1)
Zinc, ICP	273,000		48/9	02/23/1995	1.0	jet	348 769	6010 (1)
TCLP-Arsenic, GFAA	⊲0.65	8	mg/L	02/21/1995	0.05	ej:	409 404	7061 (1)
TCLP-Serium, ICP	1.82		 /L	02/23/1995	0.020	jet	697 1019	6010 (1)
TCLP-Codmium, ICP	0.227		mg/L	02/23/1995	0.010	jet	697 990	6010 (1)
TCLP-Chronium, ICP	4.84		/L	02/23/1995	0.040	jet	697 974	6010 (1)
TCLP-Copper, ICP	5.83		- /L	02/23/1995	0.010	jet	697 1211	6010 (1)
TCLP-Load, GFAA	5.00		mg/L	02/23/1995	0.0050	jet	409 989	7421 (1)
TCLP-Mercury, CWA	<0.0002	\$	mg/L	02/22/1995	0.0002	mjs	493 457	7470 (1)
TCLP-Selenium, GFAA	⋖.05	\$	mg/L	02/22/1995	0.05	ajs	409 161	7740 (1)
TCLP-Silver, AA	⋖9.040		mg/L	02/21/1995	0.040	mic	281 324	7760 (1)
TCLP-Zinc, ICP	612		■ /L	02/23/1995	0.020	jet	697 963	6010 (1)

S : Parameter analysis was sub-contracted to another NET location.





Tel: (708) 289-3100 Fax: (708) 289-5445

ANALYTICAL REPORT

Mr. Dave Hendren ECOLOGY & ENVIRONMENT, INC 111 West Jackson Blvd. Chicago, IL 60604 02/23/1995

Sample No.: 294399

NET Job No.: 95.01077

Sample Description:

D-03; Grab

2T 3051; T05-9502-803

Date Taken: 02/17/1995 Time Taken: 10:30 IEPA Cert. No. 100221 Date Received: 02/17/1995

Parameter	Results		Units	Date of Analysis	Method PQL	Analyst	Batci Prep			ytical thod
Flashpoint	>200		Degree f	02/22/1995	72	jpd		252	1010	(1)
pH, Non aqueous	6.33		units	02/22/1995	0.10	jpd		288	9040	(1)
Arsenic, GFAA	27.5	s	ug/g	02/21/1995	0.50	mjs	348	51	7060	(1)
Barium, ICP	4,300		ug/g	02/23/1995	1.0	jmt	348	805	6010	(1)
Cadmium, ICP	6.16		ug/g	02/23/1995	0.50	jmt	348	773	6010	(1)
Chromium, ICP	8,600		ug/g	02/23/1995	2.0	jmt	348	766	6010	(1)
Copper, 1CP	1,130		ug/g	02/23/1995	0.50	jmt	348	986	6010	(1)
Lead, GFAA	23,300		ug/g	02/23/1995	0.25	jmt	348	13	7421	(1)
Mercury, CVAA	0.12	S	ug/g	02/22/1995	0.02	mjs		381	7471	(1)
Selenium, GFAA	<0.5	S	ug/g	02/22/1995	0.50	mjs	348	40	7740	(1)
Silver, AA	2.6		ug/g	02/22/1995	2.0	jmt	134	245	7760	(1)
Zinc, ICP	3,170		ug/g	02/23/1995	1.0	jmt	348	769	6010	(1)
TCLP-Arsenic, GFAA	<0.05	s	mg/L	02/21/1995	0.05	mjs	409	404	7061	(1)
TCLP-Barium, ICP	0.288		mg/L	02/23/1995	0.020	jmt	697	1019	6010	(1)
TCLP-Cadmium, ICP	0.035		mg/L	02/23/1995	0.010	jmt	697	990	6010	(1)
TCLP-Chromium, ICP	0.615		mg/L	02/23/1995	0.040	jmt	697	974	6010	(1)
TCLP-Copper, ICP	1.29		mg/L	02/23/1995	0.010	jmt	697	1211	6010	(1)
TCLP-Lead, GFAA	84.5		mg/L	02/23/1995	0.0050	jmt	409	989	7421	(1)
TCLP-Mercury, CVAA	<0.0002	S	mg/L	02/22/1995	0.0002	mjs	493	457	7470	(1)
TCLP-Selenium, GFAA	<0.05	S	mg/L	02/22/1995	0.05	mjs	409	161	7740	(1)
TCLP-Silver, AA	<0.040		mg/L	02/21/1995	0.040	mic	281	324	7760	(1)
TCLP-Zinc, ICP	17.4		mg/L	02/23/1995	0.020	jmt	697	983	6010	(1)







Bartlett Division 850 W. Bartlett Rd. Bartlett, IL 60103 Tet: (708) 289-3100

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ANALYTICAL REPORT

Mr. Dave Hendren ECOLOGY & ENVIRONMENT, INC 111 West Jackson Blvd. Chicago, IL 60604 02/23/1995

Sample No.: 294399

NET Job No.: 95.01077

Sample Description:

D-03; Grab

2T 3051; T05-9502-803

Date Taken: 02/17/1995 Time Taken: 10:30 IEPA Cert. No. 100221 Date Received: 02/17/1995 Time Received: 14:45 WDNR Cert. No. 999447130

Parameter	Resul ts	Units	Date of Analysis	Hethod PQL	Analyst	Batch No. Prep/Run	Analytical Method
						-	
Prep, SMA Extract (TCLP)	extracted		02/20/1995		las	275	3500 (1)
TCLP-ACID COMPOUNDS 8270							
TCLP-Cresols, Total	◆ 0.10	mg/L	02/21/1995	0.10	adl	275 713	8270 (1)
TCLP-3-Methylphenol (m-cresol)	<0.10	mg/L	02/21/1995	0.10	adl	275 713	8270 (1)
TCLP-2-Nethylphanol (o-Cresol)	◀.10	mp /L	02/21/1995	0.10	adl	275 713	8270 (1)
TCLP-4-Hethylphenol (p-Cresol)	<0.10	mg/L	02/21/1995	0.10	adil	275 713	8270 (1)
TCLP-Pentachlorophenol	⋖0.50	mp/ L	02/21/1995	0.50	adl	275 713	8270 (1)
TCLP-2,4,5-Trichlorophenol	⋖0.50	mg/L	02/21/1995	0.50	adt	275 713	8270 (1)
TCLP-2,4,6-Trichlorophenol	⋖0.10	mg/L	02/21/1995	0.10	adl	275 713	8270 (1)
Surr: Phonol-dó	87	*	02/21/1995	10-94	adl	275 713	8270 (1)
Surr: 2-Fluorophenol	86	X	02/21/1995	21-100	adl	275 713	8270 (1)
Surr: 2,4,6-Tribremophenol	103	*	02/21/1995	10-123	adl	275 713	8270 (1)





Tel: (708) 289-3100 Fax: (708) 289-5445

ANALYTICAL REPORT

Mr. Dave Hendren ECOLOGY & ENVIRONMENT, INC 111 West Jackson Blvd. Chicago, IL 60604 02/23/1995

Sample No. : 294399

NET Job No.: 95.01077

Sample Description:

D-03; Grab

2T 3051; T05-9502-803

Date Taken: 02/17/1995
Time Taken: 10:30
Time Received: 02/17/1995
Time Received: 14:45
WDNR Cert. No. 999447130

Parameter	Results	Units	Date of	Method	Analyst			Analytical
			Analysis	PQL		Prep	/Run	Method
TCLP-VOLATILES 8240								
TCLP-Benzene	<0.020	mg/L	02/23/1995	0.020	rla	160	914	8240 (1)
TCLP-Carbon Tetrachloride	<0.020	mg/L	02/23/1995	0.020	rla	160	914	8240 (1)
TCLP-Chlorobenzene	<0.020	mg/L	02/23/1995	0.020	rla	160	914	8240 (1)
TCLP-Chloroform	<0.020	mg/L	02/23/1995	0.020	rla	160	914	8240 (1)
TCLP-1,4-Dichlorobenzene	<0.020	mg/L	02/23/1995	0.020	rla	160	914	8240 (1)
TCLP-1,2-Dichloroethane	<0.020	mg/L	02/23/1995	0.020	rla	160	914	8240 (1)
TCLP-1,1-Dichloroethene	<0.020	ing/L	02/23/1995	0.020	rla	160	914	8240 (1)
TCLP-Methyl Ethyl Ketone	<0.40	mg/L	02/23/1995	0.40	rla	160	914	8240 (1)
TCLP-Tetrachloroethene	<0.020	IRg/L	02/23/1995	0.020	rla	160	914	8240 (1)
TCLP-1,1,1-Trichloroethane	<0.020	mg/L	02/23/1995	0.020	rla	160	914	8240 (1)
TCLP-Trichloroethene	<0.020	mg/L	02/23/1995	0.020	rla	160	914	8240 (1)
TCLP-Vinyl Chloride	<0.020	mg/L	02/23/1995	0.020	rla	160	914	8240 (1)
Surr: 1,2-Dichloroethane-d4	104	x	02/23/1995	76-114	rla	160	914	8240 (1)
Surr: Toluene-d8	97	×	02/23/1995	88-110	rla	160	914	8240 (1)
Surr: Bromofluorobenzene	94	×	02/23/1995	86-115	rla	160	914	8240 (1)
TCLP BASE NEUTRAL COMPOUNDS								
TCLP-1,4-Dichlorobenzene	<0.10	mg/L	02/21/1995	0.10	adl		713	8270 (1)
TCLP-Hexachloroethane	<0.10	mg/L	02/21/1995	0.10	adl		713	8270 (1)
TCLP-Nitrobenzene	<0.10	mg/L	02/21/1995	0.10	adl		713	8270 (1)
TCLP-Hexachlorobutadiene	<0.10	mg/L	02/21/1995	0.10	adl		713	8270 (1)
TCLP-2,4-Dinitrotoluene	<0.10	mg/L	02/21/1995	0.10	adl		713	8270 (1)
TCLP-Hexachlorobenzene	, <0.10	mg/L	02/21/1995	0.10	adl		713	8270 (1)
TCLP-Pyridine	<0.10	mg/L	02/21/1995	0.10	adl		713	8270 (1)
Surr: Nitrobenzene-d5	92	x	02/21/1995	35-114	adl		713	8270 (1)
Surr: 2-Fluorobiphenyl	89	×	02/21/1995	43-116	adl		713	8270 (1)
Surr: Terphenyl-d14	107	×	02/21/1995	33-141	adl		713	8270 (1)



Tel: (708) 289-3100 Fax: (708) 289-5445

ANALYTICAL REPORT

Mr. Dave Hendren ECOLOGY & ENVIRONMENT, INC 111 West Jackson Blvd. Chicago, IL 60604 02/28/1995 - CORRECTED REPORT

Sample No.: 294400

NET Job No.: 95.01077

Sample Description:

S-02; Grab

2T 3051; T05-9502-803

Date Taken: 02/17/1995 Time Taken: 10:45 IEPA Cert. No. 100221 Date Received: 02/17/1995 Time Received: 14:45 WDNR Cert. No. 999447130

Peremeter	Resul ts		Units	Date of Analysis	Nethed PQL	Anelyst		à lio. Vitun	Analytical Method
Flashpoint	>200		Degree F	02/22/1995	72	jpd		252	1010 (1)
pil, ilon equeous	7.97		units	02/22/1995	0.10	jpd		286	9040 (1)
Arsenic, GFAA	26.4	\$	49/9	02/21/1995	0.50	ajs	348	51	7060 (1)
Berium, ICP	208		46/8	02/23/1995	1.0	jet	348	805	6010 (1)
Cadmium, ICP	1.6		48/8	02/23/1995	0.50	jet	348	773	6010 (1)
Chronius, ICP	7,680		45/9	02/23/1995	2.0	jet	348	766	6010 (1)
Copper, ICP	41.8		48/8	02/23/1995	0.50	jat	348	986	6010 (1)
Leed, GFAA	31,600		49/9	02/23/1995	0.25	jet	348	13	7421 (1)
Hercury, CWA	0.06	\$	44/8	02/22/1995	0.02	ajs		381	7471 (1)
Selenium, GFAA	4 0.5	8	49/9	02/22/1995	0.50	mjs	348	40	7740 (1)
Silver, AA	2.0		48/9	02/22/1995	2.0	jet	134	245	7760 (1)
Zinc, ICP	1,700		49/9	02/23/1995	1.0	jat	348	769	6010 (1)
TCLP-Arsenic, GFAA	4.6 5	8	mg/L	02/21/1995	0.05	=js	409	404	7061 (1)
TCLP-Borium, ICP	0.556		mg/L	02/23/1995	0.020	jet	697	1019	6010 (1)
TCLP-Codmium, ICP	◀.810		mg/L	02/23/1995	0.010	jet	697	990	6010 (1)
TCLP-Chromium, ICP	4.64		ma ∕L	02/23/1995	0.040	jet	697	974	6010 (1)
TCLP-Copper, 1CP	0.073		mg/L	02/23/1995	0.010	jet	697	1211	6010 (1)
TCLP-Lood, CFAA	0.292		mg/L	02/23/1995	0.0050	jet	409	989	7421 (1)
TCLP-Hercury, CMA	4.0002	8		02/22/1995	0.0002	ejs	493	457	7470 (1)
TCLP-Selenium, GFAA	4.65	\$	mg/L	02/22/1995	0.0050	njs	409	161	7740 (1)
TCLP-Silver, AA	4.84		mg/L	02/21/1995	0.040	mic	281	324	7760 (1)
TCLP-Zine, ICP	0.952		mg/L	02/23/1995	0.020	jet	697	963	6010 (1)

S : Perameter analysis was sub-contracted to another MET location.





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ANALYTICAL REPORT

Mr. Dave Hendren
ECOLOGY & ENVIRONMENT, INC
111 West Jackson Blvd.
Chicago, IL 60604

02/23/1995

Sample No.: 294400

NET Job No.: 95.01077

Sample Description:

S-02; Grab

2T 3051; T05-9502-803

Date Taken: 02/17/1995 Time Taken: 10:45 IEPA Cert. No. 100221 Date Received: 02/17/1995

Parameter	Results	Units	Date of Analysis	Method PQL	Analyst	Batch No. Prep/Run	Analytical Method
Prep, BNA Extract (TCLP)	extracted		02/20/1995		las	275	3500 (1)
TCLP-ACID COMPOUNDS 8270							
TCLP-Cresols, Total	<0.10	mg/L	02/21/1995	0.10	adl	275 713	8270 (1)
TCLP-3-Methylphenol (m-cresol)	<0.10	mg/L	02/21/1995	0.10	adl	275 713	8270 (1)
TCLP-2-Methylphenol (o-Cresol)	<0.10	mg/L	02/21/1995	0.10	adl	275 713	8270 (1)
TCLP-4-Methylphenol (p-Cresol)	<0.10	mg/L	02/21/1995	0.10	adl	275 713	8270 (1)
TCLP-Pentachlorophenol	<0.50	mg/L	02/21/1995	0.50	adl	275 713	8270 (1)
TCLP-2,4,5-Trichlorophenol	<0.50	mg/L	02/21/1995	0.50	adl	275 713	8270 (1)
TCLP-2,4,6-Trichlorophenol	<0.10	mg/L	02/21/1995	0.10	adl	275 713	8270 (1)
Surr: Phenol-dó	85	x	02/21/1995	10-94	adl	275 713	8270 (1)
Surr: 2-Fluorophenol	84	x .	02/21/1995	21-100	adl	275 713	8270 (1)
Surr: 2,4,6-Tribromophenol	105	X	02/21/1995	10-123	adl	275 713	8270 (1)



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ANALYTICAL REPORT

Mr. Dave Hendren ECOLOGY & ENVIRONMENT, INC 111 West Jackson Blvd. Chicago, IL 60604 02/23/1995

Sample No. : 294400

NET Job No.: 95.01077

Sample Description:

S-02; Grab

2T 3051; T05-9502-803

Date Taken: 02/17/1995 Time Taken: 10:45 IEPA Cert. No. 100221 Date Received: 02/17/1995 Time Received: 14:45

Parameter	Results	Units	Date of Analysis	Rethod PQL	Analyst		h Ho. Vitun	Analytical Method
TCLP-VOLATILES 8240								
TCLP-Benzene	⋖0.020	mg/L	02/23/1995	0.020	rla	160	914	8240 (1)
TCLP-Carbon Tetrachlorida	⋖0.020	≈g/ L	02/23/1995	0.020	rla	160	914	8240 (1)
TCLP-Chlorobenzone	<0.020	≈ /L	02/23/1995	0.020	rle	160	914	8240 (1)
TCLP-Chloroform	⋖0.020	≈g/ L	02/23/1995	0.020	rla	160	914	8240 (1)
TCLP-1,4-Dichlorobenzene	<0.020	mg/L	02/23/1995	0.020	rla	160	914	8240 (1)
TCLP-1,2-Dichloroethene	<0.020	mg/L	02/23/1995	0.020	rla	160	914	8240 (1)
TCLP-1,1-Dichloroethene	<0.020	mg/L	02/23/1995	0.020	rla	160	914	8240 (1)
TCLP-Nethyl Ethyl Ketone	⋖.40	■ /L	02/23/1995	0.40	rla	160	914	8240 (1)
TCLP-Tetrackloroethene	⋖0.020	≈ y/L	02/23/1995	0.020	rla	160	914	8240 (1)
TCLP-1,1,1-Trichleroethene	⋖0.020	■ /L	02/23/1995	0.020	rla	160	914	8240 (1)
TCLP-Trickloroethene	⋖0.020	ay ∕L	02/23/1995	0.020	rla	160	914	8240 (1)
TCLP-Vinyl Chloride	⋖0.029	≈ y/L	02/23/1995	0.020	rla	160	914	8240 (1)
Surr: 1,2-Dichloroethane-di	104	X	02/23/1995	76-114	rle	160	914	8240 (1)
Surr: Toluene-dB	100	x	02/23/1995	86-110	rla	160	914	8240 (1)
Surr: Bramofluorabenzene	96	*	02/23/1995	86-115	rla	160	914	8240 (1)
TOLP BASE NEUTRAL COMPOUNDS								
TCLP-1,4-Dichlorobungene	⋖.10	mg/L	02/21/1995	0.10	adl		713	8270 (1)
TCLP-Rezach Loroethane	⋖.10	mg/L	02/21/1995	0.10	adil		713	8270 (1)
TCLP-Hitrobenzene	⋖.10	mg/L	02/21/1995	0.10	adl		713	8270 (1)
TCLP-Rexach Lorobutadiena	◆ 0.10	≈g/ L	02/21/1995	0.10	adl		713	8270 (1)
TCLP-2,4-Dinitrotolume	◆.10	■	02/21/1995	0.10	adl		713	8270 (1)
TCLP-Nexach Lorobanzana	<0.10	≈ g/L	02/21/1995	0.10	adl		713	8270 (1)
TCLP-Pyridine	⋖.10	■g/L	02/21/1995	0.10	adl		713	8270 (1)
Surr: Hitrobenzene-dő	92	x	02/21/1995	35-114	adl		713	8270 (1)
Surr: 2-fluorobiphonyl	83	x	02/21/1995	43-116	adl		713	8270 (1)
Surr: Terphenyl-d14	109	*	02/21/1995	33-141	adil		713	8270 (1)



Tel: (708) 289-3100 Fax: (708) 289-5445

02/17/1995

ANALYTICAL REPORT

Mr. Dave Hendren ECOLOGY & ENVIRONMENT, INC 111 West Jackson Blvd. Chicago, IL 60604

02/28/1995

Date Received:

Sample No. : 294401

NET Job No.: 95.01077

Sample Description:

V-01; Grab

2T 3051; T05-9502-803

Date Taken: 02/17/1995

Time Taken: 10:40 Time Received: 14:45 WDNR Cert. No. 999447130 IEPA Cert. No. 100221

Parameter	Results		Units	Date of Analysis	Nethod PQL	Analyst	Batch Prep/I		Analytical Method
Cyanide, Reactive	<0.25		ug/g	02/21/1995	0.25	kaf		270	7.3 (1)
Cyanide, total	3.2		ug/g	02/21/1995	0.10	kaf	7	293	9010 (1)
pH, Non aqueous	6.57		units	02/22/1995	0.10	jpd	7	288	9040 (1)
Sulfide	<2.0	MX	ug/g	02/22/1995	0.1	mes	1	195	9030 (1)
Sulfide, Reactive	<2.5		ug/g	02/22/1995	2.5	mes	2	208	9030 (1)
Arsenic, GFAA	4.9	s	ug/g	02/21/1995	0.50	mjs	348 5	51	7060 (1)
Barium, ICP	540		ug/g	02/23/1995	1.0	jmt	348 8	305	6010 (1)
Cadmium, ICP	30.4		ug/g	02/23/1995	0.50	jmt	348 7	773	6010 (1)
Chromium, ICP	482		ug/g	02/23/1995	2.0	jmt	348 7	766	6010 (1)
Copper, ICP	179		ug/g	02/23/1995	0.50	jmt	348 9	786	6010 (1)
Lead, GFAA	4,150		ug/g	02/23/1995	0.25	jmt	348 1	13	7421 (1)
Mercury, CVAA	0.07	\$	ug/g	02/22/1995	0.02	mjs	3	581	7471 (1)
Selenium, GFAA	0.8	S	ug/g	02/22/1995	0.50	mjs	348 4	0	7740 (1)
Silver, AA	2.3		ug/g	02/22/1995	2.0	jmt	134 2	245	7760 (1)
Zinc, ICP	4,290		ug/g	02/23/1995	1.0	jmt	348 7	769	6010 (1)
TCLP-Arsenic, GFAA	<0.05	\$	mg/L	02/21/1995	0.05	mjs	409 4	104	7061 (1)
TCLP-Barium, ICP	0.310		mg/L	02/23/1995	0.020	jmt	697 1	1020	6010 (1)
TCLP-Cadmium, ICP	0.132		mg/L	02/23/1995	0.010	mic	697 9	792	6010 (1)
TCLP-Chromium, ICP	0.122		Mg/L	02/23/1995	0.040	jmt	697 9	74	6010 (1)
TCLP-Copper, ICP	0.331		mg/L	02/23/1995	0.010	jmt	697 1	1211	6010 (1)
TCLP-Lead, GFAA	1.34		Mg/L	02/23/1995	0.0050	jmt	409 9	289	7421 (1)
TCLP-Mercury, CVAA	<0.0002	S	mg/L	02/22/1995	0.0002	mjs	493 4	57	7470 (1)
TCLP-Selenium, GFAA	<0.05	\$	mg/L	02/22/1995	0.0050	mjs	409 1	61	7740 (1)
TCLP-Silver, AA	<0.040		mg/L	02/21/1995	0.040	mic	281 3	324	7760 (1)
TCLP-Zinc, ICP	42.7		mg/L	02/23/1995	0.020	jmt	697 9	83	6010 (1)

S : Parameter analysis was sub-contracted to another NET location. MX: Dilution required due to sample matrix; analyte is not detected.



Tet: (708) 289-3100 Fax: (708) 289-5445

ANALYTICAL REPORT

Mr. Dave Hendren ECOLOGY & ENVIRONMENT, INC 111 West Jackson Blvd. Chicago, IL 60604 02/23/1995

Sample No.: 294402

NET Job No.: 95.01077

Sample Description:

D-04; Grab

2T 3051; T05-9502-803

Date Taken: 02/17/1995 Time Taken: 11:00 IEPA Cert. No. 100221

Date Received: 02/17/1995

Persector	Results		Units	Date of Analysis	Nethod PQL	Anelyst		h No. Vitun	Analytical Method
Flashpoint	145		Degree F	02/22/1995	72	jpd		252	1010 (1)
pil, ilon aqueous	4.95		units	02/22/1995	0.10	jpd		288	9040 (1)
Arsenic, GFAA	<0.50	\$	48/9	02/22/1995	0.50	mjs	348	52	7060 (1)
Serium, ICP	<1.2		46/6	02/23/1995	1.0	jet	348	805	6010 (1)
Codefum, ICP	⋖0.50		46/6	02/23/1995	0.50	jat	348	773	6010 (1)
Chronium, ICP	₹.0		US/ S	02/23/1995	2.0	jet	348	766	6010 (1)
Copper, ICP	1.5		45/9	02/23/1995	0.50	jet	348	986	6010 (1)
Leed, GFAA	2.2		44/9	02/23/1995	0.25	jat	348	13	7421 (1)
Mercury, CVAA	⋖.02	\$	ug/ 9	02/22/1995	0.02	≡js		381	7471 (1)
Selenium, GFAA	0.64	\$	48/8	02/22/1995	0.50	≡js	348	39	7740 (1)
Silver, AA	<2.0		49/9	02/22/1995	2.0	jat	134	245	7760 (1)
Zinc, ICP	<9.0		48/8	02/23/1995	1.0	jet	348	769	6010 (1)
Prep, BMA Extract (TCLP)	extracte	đ		02/20/1995		las	275		3500 (1)

S : Parameter analysis was sub-contracted to another MET location.



Tel: (708) 289-3100 Fax: (708) 289-5445

ANALYTICAL REPORT

Mr. Dave Hendren ECOLOGY & ENVIRONMENT, INC 111 West Jackson Blvd. Chicago, IL 60604 02/23/1995

Sample No. : 294402

NET Job No.: 95.01077

Sample Description:

D-04; Grab

2T 3051; T05-9502-803

Date Taken: 02/17/1995 Time Taken: 11:00 IEPA Cert. No. 100221 Date Received: 02/17/1995 Time Received: 14:45

Parameter	Results	Units	Date of Analysis	Method PQL	Analyst		h No. D/Run	Analytical Method
TCLP-ACID COMPOUNDS 8270								
TCLP-Cresols, Total	<0.10	mg/L	02/21/1995	0.10	adl	275	714	8270 (1)
TCLP-3-Methylphenol (m-cresol)	<0.10	mg/L	02/21/1995	0.10	adl	275	714	8270 (1)
TCLP-2-Methylphenol (o-Cresol)	<0.10	mg/L	02/21/1995	0.10	adt	275	714	8270 (1)
TCLP-4-Methylphenol (p-Cresol)	<0.10	mg/L	02/21/1995	0.10	adl	275	714	8270 (1)
TCLP-Pentachlorophenol	<0.50	mg/L	02/21/1995	0.50	adl	275	714	8270 (1)
TCLP-2,4,5-Trichlorophenol	<0.50	mg/L	02/21/1995	0.50	adt	275	714	8270 (1)
TCLP-2,4,6-Trichlorophenol	<0.10	mg/L	02/21/1995	0.10	adl	275	714	8270 (1)
Surr: Phenol-d6	84	x	02/21/1995	10-94	adl	275	714	8270 (1)
Surr: 2-Fluorophenol	73	×	02/21/1995	21-100	adl	275	714	8270 (1)
Surr: 2,4,6-Tribromophenol	88	x	02/21/1995	10-123	adl	275	714	8270 (1)
TCLP-VOLATILES 8240								
TCLP-Benzene	<0.020	ing/L	02/23/1995	0.020	rla	160	914	8240 (1)
TCLP-Carbon Tetrachloride	<0.020	mg/L	02/23/1995	0.020	rla	160	914	8240 (1)
TCLP-Chlorobenzene	<0.020	mg/L	02/23/1995	0.020	rla	160	914	8240 (1)
TCLP-Chloroform	<0.020	mg/L	02/23/1995	0.020	rla	160	914	8240-(1)
TCLP-1,4-Dichlorobenzene	<0.020	mg/L	02/23/1995	0.020	rla	160	914	8240 (1)
TCLP-1,2-Dichloroethane	<0.020	mg/L	02/23/1995	0.020	rla	160	914	8240 (1)
TCLP-1,1-Dichloroethene	<0.020	mg/L	02/23/1995	0.020	rla	160	914	8240 (1)
TCLP-Methyl Ethyl Ketone	2.1	mg/L	02/23/1995	0.40	rla	160	914	8240 (1)
TCLP-Tetrachloroethene	<0.020	mg/L	02/23/1995	0.020	rla	160	914	8240 (1)
TCLP-1,1,1-Trichloroethane	<0.020	mg/L	02/23/1995	0.020	rla	160	914	8240 (1)
TCLP-Trichloroethene .	<0.020	mg/L	02/23/1995	0.020	rla	160	914	8240 (1)
TCLP-Vinyl Chloride	<0.020	mg/L	02/23/1995	0.020	rla	160	914	8240 (1)
Surr: 1,2-Dichloroethane-d4	106	x	02/23/1995	76-114	rla	160	914	8240 (1)
Surr: Toluene-d8	103	×	02/23/1995	88-110	rla	160	914	8240 (1)
Surr: Bromofluorobenzene	102	x	02/23/1995	86-115	rla	160	914	8240 (1)





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ANALYTICAL REPORT

Mr. Dave Hendren

ECOLOGY & ENVIRONMENT, INC 111 West Jackson Blvd.

Chicago, IL 60604

02/23/1995

Sample No.: 294402

NET Job No.: 95.01077

Sample Description:

D-04; Grab

2T 3051; T05-9502-803

Date Taken: 02/17/1995

Time Taken: 11:00 IEPA Cert. No. 100221 Date Received: 02/17/1995

Perameter	Resul ts	Units	Date of Amelysis	Hethod PQL	Analyst	Batch No. Prep/Run	Analytical Method
TCLP BASE MEUTRAL COMPOUNDS							
TCLP-1,4-Dicklorobenzene	<0.10	≡g/ L	02/21/1995	0.10	adl	714	8270 (1)
TCLP-Hexachloroethene	⋖ 0.10	mg/L	02/21/1995	0.10	adl	714	8270 (1)
TCLP-Hitrobenzone	⋖ 0.10	mg/ L	02/21/1995	0.10	adl	714	8270 (1)
TCLP-Hexachlorobutadiene	⋖ 0.10	≈g/ L	02/21/1995	0.10	adi	714	8270 (1)
TCLP-2,4-Dinitrotolume	⋖ 0.10	■g/ L	02/21/1995	0.10	adl	714	8270 (1)
TCLP-Nexachlorobenzene	4 0.10	mg/L	02/21/1995	0.10	adl	714	8270 (1)
TCLP-Pyridine	<0.10	≈g/ L	02/21/1995	0.10	adl	714	8270 (1)
Surr: Hitrobenzone-d5	86	x	02/21/1995	35-114	adl	714	8270 (1)
Surr: 2-Fluorobiphonyl	91	X	02/21/1995	43-116	adl	714	8270 (1)
Surr: Terphenyl-d14	101	x	02/21/1995	33-141	adil	714	8270 (1)

